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BULLETIN OF AMERICA'S TOWN MEETING OF THE AIR

BROADCAST BY STATIONS OF THE AMERICAN BROADCASTING CO.



Reg. U. S. Pat. Off.

How Can Schools and Colleges Teach Controversial Issues?

Moderator, GEORGE V. DENNY, JR.

Speakers

PAUL H. DOUGLAS

JOHN M. VORYS

GEORGE H. REAVIS

DARRELL LANE

(See also page 13)

COMING

—September 28, 1948—

Should the Taft-Hartley Law Be Repealed?

—October 5, 1948—

How Is Peace With Russia Possible?

Published by THE TOWN HALL, Inc., New York 18, N.Y.





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The account of the meeting reported in this Bulletin was transcribed from recordings made of the actual broadcast and represents the exact content of the meeting as nearly as such mechanism permits. The publishers and printer are not responsible for the statements of the speakers or the points of view presented.

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The broadcast of September 21, 1948, under the auspices of the Cincinnati Junior Town Meeting, originated in Music Hall, Cincinnati, Ohio, from 8:30 to 9:30 p.m., EDT, over the American Broadcasting Co. Network.

Town Meeting is published by The Town Hall, Inc., Town Meeting Publication Office: 400 S. Front St., Columbus 15, Ohio. Send Subscriptions and single copy orders to Town Hall, 123 West 43rd St., New York 18, N. Y. Subscription price, \$4.50 a year. 10c a copy. Entered as second-class matter, May 9, 1942, at the Post Office at Columbus, Ohio, under the Act of March 3, 1879.

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GEORGE V. DENNY, JR., MODERATOR



SEPTEMBER 21, 1948

VOL. 14, No. 22

How Can Schools and Colleges Teach Controversial Issues?

Announcer:

Tonight your Town Meeting welcomes you to historic Music Hall in Cincinnati where 4,000 people are assembled to consider the question, "How Should We Teach Controversial Issues in Our Schools and Colleges?"

Our host tonight is the Cincinnati Junior Town Meeting, one of the most active of the many Junior Town Meetings affiliated with the Junior Town Meeting League which boasts a membership of more than 5,000 teachers, students, and radio managers all over the country.

The Cincinnati Junior Town Meeting, produced by the Cincinnati public and parochial schools in cooperation with station WSAI, presents its meetings once each week on Monday nights at 9:00 o'clock Cincinnati time, always from a different high school. Participants are usually junior and senior students in these high

schools. The moderator is a member of the staff of WSAI.

After tonight's program you may decide that you would like to have a Junior Town Meeting in your town. For complete information address the Junior Town Meeting League, 400 South Front Street, Columbus, Ohio.

Now to preside over our discussion, here is our moderator, the president of Town Hall, New York, and founder of America's Town Meeting of the Air, Mr. George V. Denny, Jr. Mr. Denny. (*Applause.*)

Moderator Denny:

Good evening, neighbors. In many ways, this is one of the most important programs Town Meeting has ever presented. We are daring to cope with the question of how young minds should be introduced to controversial questions in our schools and colleges at a time when the number of controversial issues before us is

greater than ever; at a time when pressure groups and political propagandists are creating such a din in our ears, the still, small voice of conscience is scarcely audible and the stern, strong voice of education seems much less attractive to us than the glamorous show being put on by the political propagandists.

Let's face it, the biggest show of our times is the world conflict between the two most powerful ideologies in the world today, one centering in Moscow, the other in Washington, D.C. We're so much interested in this fight that we tend to overlook the tremendous importance of education as the first and foremost essential weapon to insure the preservation of individual freedom in the world today.

We could not have a more appropriate auspices than the Cincinnati Junior Town Meeting which has pioneered in this field under the direction of Dr. Reavis since the inception of America's Town Meeting of the Air. In spite of the great progress he's made here, I'm sure that Dr. Reavis is not wholly satisfied so that he's willing to participate in tonight's discussion to help clarify this important question, "How Should We Teach Controversial Issues in Our Schools and Colleges?"

Now let's get to the heart of the question. In the name of freedom of speech, should teachers, while examining totalitarian systems, be permitted to advocate a system

which would destroy freedom of speech itself?

On the other hand, is a teacher to be considered a dangerous Rebel because he or she points out some of the evils and maladjustments of our present system?

When a class is studying comparative governments and is looking at the Constitution of the United States of America and the U.S.S.R., to what extent is the teacher justified in pointing out what, if any, has been each nation's failure to live up to the provisions of these documents?

These are practical questions that each teacher faces. What techniques and resources are available to teachers of history, social studies, and the humanities that will help them train young minds to distinguish truth from falsehood, good from evil, right from wrong, in the welter of today's burning controversies?

Is there any important distinction between teaching controversial issues in colleges and high schools?

Who, and what agency, should determine policy regarding the teaching of controversial issues?

What penalties, if any, should be provided for the violation of such a policy?

These and similar questions will be considered in our discussion tonight. We will hear first from a man who spent a lifetime teaching controversial issues in colleges and has stepped out into the forum of public opinion to seek public office

He is a professor of economics at the University of Chicago, has served on the Board of Aldermen of the City of Chicago, has been president of the American Economic Society, was a brilliant officer of Marines in World War II, and is now a candidate for Senator for the Democratic Party for the State of Illinois. Mr. Paul H. Douglas. (*Applause.*)

Mr. Douglas:

Mr. Denny and friends, I think we can simplify this question if, instead of lumping all levels of education together and then drawing sweeping conclusions which we apply to them all, we instead separate four distinct levels of education and consider each separately. These four levels are roughly these: elementary education, high school, college, and finally, university or post graduate.

I think that nearly all will agree that what adults would call controversial subjects should not be taught as such in the elementary grades. Up to the age of 12 or 13, boys and girls will need all the time they have to master the basic skills of reading, writing, mathematics, etc., and also to become friendly and cooperative towards others.

On the other hand, I believe that nearly everyone, except Fascists and Communists, would also agree that controversial issues should be considered on the graduate levels of instruction, for if

our college graduates are not competent enough to discuss controversial matters, who, under the heavens, are?

The real issue, therefore, narrows down to what should be done in the case of high schools and colleges. Even here, there are gradations, the case for considering controversial issues being stronger as one moves up the rungs of the educational ladder and weaker as one moves down.

There is one cardinal point, however, which needs to be kept in the very forefront of our thinking. All of these students will go out into a world filled with controversy. The vast majority of Americans still leave before they have graduated from high school. If the schools religiously refrain from even considering controversial subjects, these young men and women will go out into the world unprepared for the controversies which will soon engulf them. In this case, they will be less able to distinguish truth from falsehood and right from wrong than if they had some prior preparation. They will be more likely to be taken in by the arguments of propagandists who will commonly blend half-truths and falsehoods together so as to inflame rather than to inform. They will be less able to winnow out the true from the false or to blend different elements of truth together into a better whole. Under these conditions, disaster may

come, both to men individually and to society as a whole.

If this is so, is it not proper that high schools, at least in the upper grades, should not only permit, but encourage, the consideration of given controversial issues?

Just as boys and girls are better businessmen and housewives if they have some prior training in arithmetic, so they are better citizens if they have some prior training in the subjects upon which they are later called to decide.

With all their faults, and they have many, do not the schools and colleges provide a clearer climate of opinion and more impartial treatment than is given in the battle of conflicting interests in the market place of public opinion?

This is the point of view which I hold. But I would immediately add some reservations to the principle. The subjects considered should not take up too much of the student's time. The subject should be fairly presented and the conflicting points of view adequately stated so that the students may have the chance to make up their own minds. The teacher should try to be as impartial as possible.

Students should, in short, be encouraged to become mature and moral men and women who can make careful and ethical choices.

There is a final word which I should add. The general presumption is in favor of freedom of teaching, of learning, and of thought, but this freedom is not

absolute. Where there is a *clear* and *present* danger, society has the right to curb freedom of expression if this freedom threatens the security or the existence of society. But the danger must be *both clear* and *present*.

In the case of Soviet Russia, the danger is now clear. It is not yet present, although unfortunately, it may become so.

Nevertheless, we should be reluctant to yield the tradition of freedom lightly. For in the long run (although not always in the short run) truth is the most powerful force in the world and can overcome error. In the words of Jefferson, we commonly "should not be afraid to tolerate error if reason be left free to combat it."

Once we start to suppress discussion, it is hard to stop and the presumption should be all in favor of freedom. If we are to have any faith at all, must we not believe that if men and women are given the facts in a fair and objective way, they will be led in most cases by their consciences to reach approximately correct decisions. It seems to me that it is this feature of life that we should be careful to encourage and not to kill off. (*Applause.*)

Moderator Denny:

Thank you, thank you, Paul Douglas. Our next speaker is an experienced national legislator, hailing from Ohio's capital city and having served five terms in our

national legislature. He's Congressman John M. Vorys, a member of the House Foreign Affairs Committee, an experienced Town Hall speaker—he speaks frequently on the Columbus Town Meeting—and we are very happy to welcome him to his third America's Town Meeting of the Air here tonight. Congressman Vorys. (*Applause.*)

Congressman Vorys:

Mr. Denny and friends of Town Meeting, for the purpose of our discussion tonight, I suggest that a controversial issue is one that makes a lot of people mad, but nevertheless must be decided by public action. Study of such issues is important because we want such issues decided right in our Republic.

It is our faith that by using majority decisions at the polls, in courts, and in legislative halls, we not only get peaceful decisions but in the long run, wise and good decisions, if there is an informed public opinion.

Citizens must know how to go about deciding such questions right. This process should be learned in the schools. Dr. Reavis has prepared a very helpful outline for such teaching. I think students should also learn about the short cuts, the methods that must be used when there is no time for full preparation and study such as Dr. Reavis outlines.

The average citizen cannot completely analyze every public ques-

tion that must be decided. For instance, the last Congress passed over 1,000 bills. The average citizen could not know all about these bills. Confidentially, there was just not enough time for every one of us Congressmen to be fully informed on each bill, and yet, when the roll call came, each of us had to vote—yes or no.

Citizens have similar decisions to make. The best methods to use in making quick decisions on public questions should also be a part of the teaching of controversial questions. This will involve judgment on men as well as measures.

We want ours to be a government of laws and not of men; yet men make the laws. We are not, never have been, and I hope, never will be, a pure democracy, in which the people make all the laws directly. Ours is a representative government and education on controversial questions must involve teaching how to choose representatives.

The technique of developing light without heat on hot questions is important. We Congressmen have a saying that we are like scissors, we cut what is between us—not each other. This is a lesson that students should learn in such courses.

Such teaching must involve another lesson in public controversy—abiding by the result of a decision you disapprove. This les-

son is what makes our decisions peaceful in our Republic.

Teaching all of this is difficult, but it must be done.

Someone is going to have to decide what issues may properly be studied and what issues omitted, either because they're too hot or too cold. This means censorship. I think the faculty of each institution should decide this, subject to the control of the Board. On censorship of such questions, the faculty should decide, subject to the ultimate control of the Board, and "academic freedom" must not be made the excuse for permitting the teaching of subject matter that is obscene, blasphemous, subversive, or silly.

This is complicated now by the fact that conspirators in the communist plot to overthrow our Government by force and violence have been found in our schools and colleges. They're skillful in using the shields of freedom of speech, freedom of assemblage, and academic freedom to protect them while they are at work undermining these very freedoms.

It is extremely difficult to secure evidence to separate the actual conspirators from their dupes and followers. All of them may be fanatically sincere; this makes them more, not less, dangerous.

Our national security is involved, yet I suggest it cannot be protected merely by having Congress pass a law. We should have a federal law similar to the Mundt-

Nixon bill punishing actual subversive conspiracy, but this alone will not solve the problem.

The House Committee on Un-American Activities can perform great service by exposing to public view controversial teachers and teachings on this issue, but the Committee should continue to have, as at present, no other power than to obtain and make public information. Its investigation will bring to light many situations which fall short of an illegal conspiracy, but nevertheless threaten our fundamental freedoms.

Such a situation must be corrected promptly and fearlessly by the faculties of our schools and colleges, or if they fail, by the governing boards of these institutions. Local authorities should be empowered to act; the federal Government should have no such power.

It is part of our faith that our educational institutions have enough wisdom, patriotism, and power to protect our teaching system without interference or dictation from Washington.

Our schools and colleges can be trusted to teach controversial subjects; they should be encouraged to do it. (*Applause.*)

Moderator Denny:

Thank you, Congressman Vorys. Our next speaker was one of the first schoolmen to use American Town Meeting as an aid to teaching controversial issues. His active

interests in this field led him to be one of the organizers of the National Junior Town Meeting League, of which he is now president. He is also head of the Cincinnati Junior Town Meeting, our host this evening, and is, of course, Assistant Superintendent of Schools of the City of Cincinnati. I take great pleasure in welcoming to the Town Hall platform, Dr. George H. Reavis. (*Applause.*)

Dr. Reavis:

To teach controversial issues, Mr. Denny, three things are necessary: first competent teachers; then adequate teaching materials; and finally, a clearly defined policy established by the Board of Education. Competent teachers, teaching materials, and a policy.

Competent teachers know the facts of the issues. They see the issues in their historical perspective, and understand their implications for the future. They are fair-minded masters of discussion techniques, who maintain classrooms free from bias and prejudice. We need competent teachers.

No teacher, though, is competent who tries to mold his students into little vest-pocket imitations of himself. No Communist making Communists out of his students is a competent teacher; no New Dealer making New Dealers out of his students is a competent teacher; and no rock-ribbed Republican making GOP adherents out of his students is a competent teacher.

None of these is to be tolerated, for to indoctrinate is not to teach.

Students do not get all their learning in school. Outside of school they acquire strong opinions, many of which are sheer, unexamined prejudice. The son of a labor leader picks up different prejudices from those of a banker's son, and no teacher may call one of them right and the other one wrong. The competent teacher challenges both views with relevant evidence so that both students may seek out the facts which alone the facts can justify.

Both students may change some of their views; either may finally disagree with his father. This we may expect, for we need citizens who make up their own minds in the light of evidence.

By adequate teaching materials, I mean plenty of basic, supplementary, and current materials dealing with the vital issues of the day. The traditional textbook alone is inadequate. We need supplementary materials such as the news periodicals published especially for classroom use, and reference books, including a good, up-to-date encyclopedia. These are essential, but they are not enough.

The partisan materials that circulate freely in the community should also be included. This may include the platforms of political parties, the speeches of rival candidates, the partisan press, the persuasive appeal of extreme radio commentators. It may include pub-

lications of the special interest groups, such as the N.A.M., C.I.O., and the American Legion.

But competent teachers and adequate teaching materials alone are not enough. We need also an established policy on controversial issues such as is adopted and enforced by the Cincinnati Board of Education. Our rule in Cincinnati reads as follow:

"Without minimizing the importance of that large part of the curriculum made up of established truths and values, but recognizing that gradual social change is inevitable and that such change involves controversial issues, it shall be the policy of the Cincinnati Public Schools to foster dispassionate, unprejudiced, and scientific study of controversial issues, in order that pupils may have an opportunity to study such issues in an atmosphere void of partisanship and bias. The teacher, as an impartial moderator, shall not attempt, either directly or indirectly, to limit or control the judgment of his pupils on controversial issues. The respect for facts and the impartial search for truth are inherent in the democratic way of life."

That is the rule—the official rule—of the Cincinnati Board of Education. Such a rule, such a policy guarantees students the right to learn in an unbiased atmosphere. It protects teachers from pressure groups and from individuals who want their own particular brand of Americanism taught. It protects the Superintendent of Schools from having to make innumerable decisions in the face of controversy.

If you doubt this policy is work-

ing, study the youth of Cincinnati.

To teach controversial issues then, we need three things: competent teachers, adequate teaching materials, and a policy officially adopted by the Board of Education. This puts the teaching of controversial issues on a sound and intelligent basis. (*Applause.*)

Moderator Denny:

Thank you, Dr. Reavis. I expect you're going to have to employ extra secretarial help to answer all the requests you are going to get after this broadcast for information from other school systems throughout the country. Now Mr. Darrell Lane, attorney of Washington and vice chairman of the National Americanism Commission of the American Legion has some questions he'd like to raise with a viewpoint in which we'd all be greatly interested. Mr. Darrell Lane of Washington, D. C. Mr. Lane. (*Applause.*)

Mr. Lane:

Mr. Denny, the American Legion having just been referred to as a special interest group, I want to make it clear they have a special interest in the welfare of the United States in these days of so-called peace, the same as they did when they were wearing the uniform.

They start with the premise that the children of today are the citizens of tomorrow. Students of today will be tomorrow's leaders un-

less we are willing to settle for mob rule. If self-government is to survive, the people must be well enough educated to govern themselves. Therefore, our schools play an uncommonly vital part in each American generation.

How to teach and how *not* to teach are important.

On the positive side, it must be admitted that no one can learn to think unless he is given something to think about. No would-be baseball player, for example, can acquire skill on the diamond by just sitting down and learning the rules of baseball. He must spend long hours in practice of the game.

Similarly, selecting facts relevant to controversial issues, distinguishing between facts and propaganda, weighing the facts as to their importance, selecting some facts and discarding others, analyzing the conditions which have led to the controversy, and the *motives* of those who engage in it, these are essential skills in the solving of problems which constitute an important objective of citizenship.

A well-defined policy on teaching controversial issues must be established. On the negative side, let me say immediately, that we reject any educational policy or pedagogical technique that will in any way do harm to our country, give aid or comfort to its enemies, aid and abet the subvertors, the confusors, the disruptors, the fel-

low-travelers, the party-liners, and the traitors.

Regret it though we may—it is a cold, hard fact, that here in America, our right hand doesn't always know what our left hand is doing. A war of ideology is here, and our country and our system are entitled to honest and effective defense.

While no one can deny that the American way of life is dynamic rather than static, it must not be forgotten that too rapid and illogical change may deliver us unto our enemies.

The expression "intellectual freedom" becomes a dangerous and maddening mockery when it becomes a vehicle for the sly sowing of seeds of social unrest, use of force, disruption, and ultimate destruction. This is no idle generality. Such attempts have been and will be made, by devices, such as planting insertions in school textbooks, and by other devious means.

Our American system of free, though *compulsory* education, simply cannot withstand dishonest tampering with its machinery.

Next, we advocate, yes, we demand, an educational policy designed to defend and revere this way of life which, so far, is ours to enjoy.

The schools should seek to give to each succeeding generation a love of the American way of life, and work to inculcate the inspiration and the knowledge necessary for the practice of democracy. This involves not only a study of

its benefits, but also of its duties and its obligations.

If the totalitarian regimes can conduct their own schools of sabotage, perversion, subversion, confusion, and send their graduates into another man's country to work to such nefarious purpose, then surely the schools of America can so train our own students in the lessons, the strengths, and the *what* of our way of life, that they can meet these invaders head on!

It must also be said that the least our school authorities can do is to *not* employ, as teachers of our youth, enemies of our system. When a teacher in the public schools of a large and important city takes time out, for instance, to join a picket line in protest against the fact that our country is attempting to deport certain known and vicious enemy aliens, this teacher is hardly the perfect example of a guide to our youth, in the teaching of controversial issues in our schools.

Great care should be exercised in defining controversial issues. While no social procedure or method of personal conduct may be considered forever settled, centuries of human experience have demonstrated the wisdom of certain patterns of behavior, which it would be extremely dangerous suddenly to uproot.

Long-accepted patterns of behavior have come to be regarded as virtues. Honesty, integrity, respect for the property and persons

of others are among the traits character and modes of conduct which we do not care seriously question, though our current enemies frankly assail and seek quickly to destroy even these!

The teaching of controversial issues demands careful cooperation between the home, the school, and the community. All have a vital stake in it. Teachers should be protected in the honest exercise of their functions and punished for their violation. It's easy enough to be honest!

Teaching materials may be used provided they are honestly presented. Their source, the reason they were originally published, for example, must be made perfectly clear.

Finally, so long as our dangerous enemies slant their point of view, I should say that if there is any slanting to be done, let us give America a break and slant things our own way; otherwise, it would result in an unequal controversy. (*Applause.*)

Moderator Denny:

Thank you, Mr. Darrell Lamb. Well, gentlemen, it seems to me that there's a large area of agreement among you, but there are certain differences that you'd probably like to bring out here around the microphone, and I notice Mr. Vorys was making some notes there. I wonder, Congressman, you'd like to start this discussion period here?

Congressman Vorys: Mr. Denny, I tremble to come up, because I'm not a teacher, in the presence of these professors, but Dr. Reavis, for whom I have such great respect, described the kind of teacher that I think would not be any good—he wasn't anything. He was fearful that a teacher might indoctrinate his pupils.

I think that a teacher is probably going to unconsciously indoctrinate his pupils, and you've got to make allowance for that.

I would rather have a known partisan with known bias teaching my son than a political or intellectual eunuch. For instance, I'm a Republican, but I would rather have my boy studying under Paul Douglas, a known Democrat, and probably a New Dealer—

Mr. Douglas: Very much so. *(Laughter.)*

Congressman Vorys:—and have my boy make allowances for it rather than have him studying under some person who had no

THE SPEAKERS' COLUMN

PAUL HOWARD DOUGLAS—A native of Salem, Massachusetts, Dr. Douglas has an A.B. degree from Bowdoin; an A.M. and a Ph.D. from Columbia; and has also studied at Harvard. Before going to the University of Chicago, he taught economics at the University of Illinois, Reed College, and the University of Washington. In 1920, he went to the University of Chicago as an associate professor of industrial relations; since 1925, he has been a full professor.

Dr. Douglas was a Guggenheim Fellow in 1931 and was also a member of the Illinois Housing Commission from 1931 to 1933. He served on the Consumers' Advisory Board of the NRA, was a member of the Advisory Committee to the United States Senate and Social Security Board of the federal social security system.

Dr. Douglas has been an alderman on the Chicago City Council. In 1942, he enlisted as a private in the Marine Corps and advanced to the rank of major, seeing service overseas for two years. He was wounded in the Battle of Okinawa, and won the Bronze Star for heroism in action.

The author of many books on various phases of economics, Dr. Douglas is at present the Democratic candidate for United States Senate from Illinois.

JOHN MARTIN VORYS—Born in Lancaster, Ohio, Mr. Vorys was graduated at Yale and then taught for a year at the College of Yale in China. He was given a J.D. degree by Ohio State University in 1923 and was admitted to the Ohio bar. Practicing law in Columbus, Ohio, he was a member of the firm of Vorys, Sater, Seymour & Pease from

1926 until 1938. A Republican, he was elected to the 76th United States Congress in 1939, he has served continuously since then. He is a member of the Foreign Affairs Committee in the House.

Mr. Vorys has been a member of the Ohio General Assembly and the Ohio Senate. During World War I, he served overseas as a pilot in the U.S. Naval Air Service. In 1942, he was a pilot in the Civil Air Patrol.

GEORGE HARVE REAVIS—Assistant Superintendent of Cincinnati Public Schools, Dr. George Reavis is also president of the Junior Town Meeting League. With a Bachelor's degree from the University of Missouri and Master's and Doctor's degrees from Columbia, Dr. Reavis has served in the education field as school superintendent, high school inspector, supervisor of teacher training in Missouri; and as assistant state superintendent of schools in Maryland. He has also been dean of the School of Education and College of Arts and Sciences and director of the summer sessions at the University of Pittsburgh.

From 1929 to 1935, Dr. Reavis was state supervisor of high schools in Ohio. From 1935 to 1938, he was director of instruction for the Ohio State Department of Education. Since 1938, he has been with the Cincinnati school system. From 1936 until 1947, Dr. Reavis was chairman of the editorial advisory board of the *World Book Encyclopedia*, and still is a member of that board.

DARRELL LANE—An attorney, Mr. Lane is vice chairman of the National Americanism Commission of the American Legion.

known political or intellectual convictions at all. What do you fellows say? (*Applause.*)

Mr. Denny: Dr. Reavis, that seems to be pointed at you but we'll let the others comment on it also.

Dr. Reavis: Well, I think it's a distinction without a difference. I said to indoctrinate is not to teach. We would teach democracy by having pupils live it, practice it, understand it, appraise it and see how it works, and they would come to love it with an intellectual devotion, based on understanding, because any intellectual devotion or conviction, in the absence of understanding, is prejudice. We want a patriotism deeper than prejudice and something that's firmer than a teacher's opinion that's been indoctrinated into a pupil. (*Applause.*)

Mr. Denny: Thank you. Mr. Douglas, you were brought into this discussion. Do you think that teachers ought to let it be known where they stand politically when they are dealing with controversial issues and call the attention of the students to the fact that they ought to make due allowances for anybody who has that particular viewpoint already publicly announced?

Mr. Douglas: Well, Justice Holmes used to say that "no one should try to play God Almighty." None of us know what the complete answer is to the social problems of the times, and while we

have to form opinions, we should be properly humble about them. That means if one does hold distinct opinions, and I agree with Mr. Vorys that one tends to, nevertheless one should give those who hold the opposite opinion a fair break—a fair break both in the material to be read and in the discussion to be given. Certainly if you feel strongly about a subject you should warn your students how you feel so that they can possibly discount what you say. (*Applause.*)

Mr. Denny: All right, Mr. Vorys.

Congressman Vorys: I want to add this about the instance brought up concerning participation of teachers in public controversial life. It seems to me that those teachers should have that right and, in my little experience, such participation gives a certain humility which some of the "ivory tower boys" don't have, and some teachers that I bumped into are intellectual fascists. They seem to think they are the elite—they're too good to participate in public affairs, whereas if they would get in and rough it up a bit, I think they'd be more humble, and I'd take my chance on how their students would come out. (*Applause.*)

Mr. Denny: Mr. Lane, we haven't heard from you.

Mr. Lane: Well, Mr. Denny, have no particular wisdom on the subject that's just now been discussed, but I did hear dear ol'

Justice Holmes quoted about clear and present danger.

I believe Paul Douglas said the danger was clear, which may surprise some people. It's been clear to me for a long time. He doubted that it was yet present.

I only want to say that when smart alecks from Hollywood will stand up and sass Congress and won't be counted; when a foreign traitor or spy, or worse, will stand before Congress and say he has Constitutional rights and won't answer questions, I only say back, the danger is present. Whose constitutional rights? His? How about those of the rest of us? (*Applause.*)

Mr. Denny: Thank you. All right. Now we have an usually large audience here tonight, and while we get ready for our question period, I'm sure you, our listeners, will be interested in the following message.

Announcer: You are listening to America's Town Meeting of the Air, originating in Cincinnati, Ohio, where we are the guests of the Cincinnati Junior Town Meeting. We're discussing the question, "How Should Schools and Colleges Teach Controversial Issues?" You have just heard from Dr. George Reavis, Darrell Lane, Paul H. Douglas, and Congressman John M. Vorys. We're about to take questions from our audience.

In the meantime, let me remind you that for your convenience, we print each week a complete text, including the questions and answers, in the Town Meeting Bulletin, which you may secure by writing to Town Hall, New York 18, New York, enclosing 10 cents to cover the cost of printing and mailing. Allow at least two weeks for delivery.

If you would like to subscribe to the Bulletin for six months, enclose \$2.35; or for a year, send \$4.50; or if you would like a trial subscription, enclose one dollar for eleven issues.

While you are writing in, perhaps you would like a free copy of the latest publication of the Junior Town Meeting League called *Teaching Controversial Issues*. It is a thoroughly nonpartisan handbook prepared by the League during the past summer, under the auspices of a special committee of the League, and includes the results and experiences of those who have been doing this work effectively during the past years. If you would like to receive a copy without cost send your request for *Teaching Controversial Issues*, a publication of the Junior Town Meeting League, to Town Hall, New York 18, New York.

Now for our question period, we return you to Mr. Denny.

QUESTIONS, PLEASE!

Mr. Denny: We have a fine representative audience here in Music Hall in Cincinnati, including teachers, students, parents, and a representative public. Our assistants are in the aisles with the portable microphones, and those who are ready to ask questions have number cards indicating the name of the person to whom their question is directed. I see a question down there on the fifth row for Mr. Vorys.

Lady: Should some of the more violently controversial issues be taught by the regular staff of the high school or by peripatetic instructors?

Congressman Vorys: Well, I don't know just what kind of a subject you mean. I think peripatetic instructors might know more about it, but my guess would be that on the basis of this possible bias of the teachers, that the regular staff could teach these subjects more effectively because the children could make proper allowance for their own viewpoint. I think it would be a good thing for the teachers and the students and the parents in that community if the regular staff did it. There could be special subjects where you'd have a traveling crew handle them.

Mr. Denny: I'm glad you straightened out that "peripatetic" ten-dollar word, meaning roving teachers. I guess that's what you meant. Let's make these questions

a little simpler, please. All right now the gentleman down there.

Man: My question is addressed to Dr. Reavis. How can teachers prevent discussion of controversial issues from degenerating into sheer emotional outbursts?

Dr. Reavis: Well, the first thing we should clearly define the issue and then assemble the facts because every current issue worth studying has its roots deep in the past and casts a shadow in the future. It came from somewhere and it's going somewhere. We should study it in its historical perspective as scholarly as we studied physics or chemistry or Latin, and if you do that, you won't be bothered with flights of emotional fantasy.

Mr. Denny: Thank you. Perhaps Mr. Douglas would like to add a word or two to that answer of Dr. Reavis. I have an idea speaking of history, that in light of our discussion this morning, Mr. Douglas, you could suggest the earlier discussions of democracy by Plato and Aristotle. It might take some of these hotheads—cool them off a bit by making them realize how old their arguments are.

Mr. Douglas: Well, someone once said that we needed to have the same sense of time as an astronomer and the same patience as a geologist. It seems to me that we can use both history and the great writers of the past to throw a lot of light on current issues. For

example, many of the conflicts in American life are well expressed in the differing philosophies of Hamilton and Jefferson. The Vorys party swears by Hamilton, and our party, of course, swears by Jefferson, and if you really understand what Hamilton and Jefferson were contending for, they are extremely current people, and similarly—oh, should I stop?

Mr. Denny: I just notice that Mr. Vorys is about to jump on you there. Mr. Vorys looks very miserable. I thought maybe he wanted to comment.

Congressman Vorys: No, I wanted to get in on this matter of teaching these subjects without heat. I think it's extremely important. My suggestion would be to remind the young people that they ought to handle it the way they do athletic matters and school discipline that they discuss and accept final verdicts without heat. Lawyers and Congressmen and Senators and people in public life do discuss these questions and decide on them and don't get mad at each other. That's what they've got to learn to do. This Jefferson-Hamilton thing is going fine. I didn't mean to interrupt.

Mr. Douglas: All right. Well, similarly I would say that the discussions concerning the relative roles of collectivism and individualism have probably never been discussed better than in *Plato's Republic* and in *Aristotle's Politics*. The reading and critical

examination of these books will throw a lot of light on current issues and give one, I think, a greater sense of tolerance. In other words, we do not have to consider merely spot news. We can take a deep historical view both in terms of history and in terms of the great thinkers of the world.

Mr. Denny: Thank you. Dr. Reavis, wasn't it you who pointed out this morning that an example of people who didn't accept the democratic way of dealing with controversial issues was well personified in the shooting of Count Bernadotte by the Sternist Gang who set themselves up as superior to the methods of resolving problems through discussion and agreement resulting from discussion. That also bears on your point, Mr. Vorys. Now a question for Mr. Lane back there.

Man: This is Walter Millard of Forestville, Cincinnati, specialist in mass education, in civics, and good government at the local level. (*Applause.*)

Mr. Denny: Welcome, Walter, we're glad to see you.

Mr. Millard: Thank you. Since chronic, emotional instability distorts value judgments, and since this can now be easily tested objectively and then ended, should teachers of controversial subjects take such tests?

Mr. Lane: Well, it wouldn't be a bad idea. You know, Nero probably was a great fiddler, but he

wasn't much of a politician, according to history, and Einstein might be a great mathematician, but I don't want any atomic bombs to light on my country while he's working out a mathematical formula.

Mr. Denny: Thank you. Now, the lady in the center of the house.

Lady: If college faculties are to act as censorship boards, where are they to learn what constitutes controversial issues if they haven't studied them? Mr. Vorys.

Mr. Vorys: Well, I think they'd better study them, and, as I say, I think college faculties oughtn't to live in an ivory tower. They ought to know something about the cruel facts of life themselves, and if they don't, perhaps the trustees or Board of Education should get people in to handle controversial current events who do know something about them.

Mr. Denny: Thank you. Now the gentleman over here on the left:

Man: My question is directed to Mr. Douglas, and it is this: Is good judgment, such as choosing which of two sides of a controversial question is right, something which can be taught in our schools?

Mr. Douglas: No, probably not, because the people who are taught in the schools have such differing judgments upon the same facts, but I hold to this belief: that if people of goodwill will study a subject, in the long run, the de-

cisions which will be made will infinitely better than if they not, and that the surface differences which seem to divide people at a moment are far less important than the fundamental units which in the long run assert themselves.

Mr. Denny: Thank you. The gentleman there in the back with the receding forehead, who has a question for Dr. Reavis. Yes, that's right, you're the one I mean.

Man: My question is for Dr. Reavis. The sociologists say that the average person wants to have his beliefs galvanized. How can we compete with that in the schools, Dr. Reavis?

Dr. Reavis: I understand from that, that you mean that, as one grows older, he wants to shield his opinions and protect them. I believe that it's true that throughout the world revolutions have been primarily youth movements. The youth wants to get at the facts. The adult, the older person wants to take the thing on faith. So in youth, we must develop the thought of concepts, the sort of convictions, the sort of understandings that when a man gets older and persists on holding them and having them galvanized, society will be better off because the ideas he's holding are those that are best for the common good. So I think we can't combat galvanizing his ideas, but let's make them good before they're galvanized. (*Applause.*)

Mr. Denny: All right. Thank you. Now the young man way over here on the right.

Man: Well, my question is addressed to Mr. Lane. Is it democratic or fair to exclude teachers from political activity because of their positions?

Mr. Lane: Well, if you refer to the teacher who went parading in front of a public building in protest to our country when it was trying to deport some known alien enemies, I don't call that a political activity.

I believe teachers should have the right to be active in politics, but they should be just as willing to play politics on political time and teach on teaching time as the rest of us. I can't argue politics when I argue a case in court, and a teacher shouldn't have any more right than that, in my view.

Mr. Denny: Thank you. Mr. Vorys has a comment.

Congressman Vorys: I'd like to comment on that very hot subject. I have said that I believe that teachers should take part in politics. If, however, I were a member of a school board and a teacher's participation in politics consisted of joining and becoming active in the Communist Party or some of its fellow-traveling organizations, I would vote to fire that teacher. (Applause.)

Mr. Denny: Thank you. Mr. Reavis has a comment.

Dr. Reavis: If a teacher insists on participating in political com-

paigns, he ought to be transferred to teach physics or chemistry or mathematics, where his conduct has no relation to what he's teaching in the classroom, or not so direct a relation. He shouldn't teach government, economics, or politics, because a teacher should maintain a sufficiently impartial, scientific attitude towards his classes that he has an unbiased atmosphere, an unprejudiced atmosphere. The child has a right to have that, and if a teacher can't maintain that, he ought to shift over to a subject that he can teach and also be a political propagandist. (Applause.)

Mr. Denny: I think we ought to hear from Mr. Douglas on that, because he's a teacher of economics, and he's active in politics. Now, come along.

Mr. Douglas: Well, as I say, it's a very real problem to deal with, but there is a moral obligation upon any teacher who does take part in politics on subjects which he teaches to try not to let his political beliefs sway his teaching.

It so happens, when I became a candidate for the United States Senate, in Illinois, I took a nine-months' leave of absence. On the other hand, when I was Alderman in the City of Chicago, I carried on the work as an alderman at the same time that I taught. I taught from the hour of eight in the morning to one in the afternoon, and I think I did my duty. Then I was an alderman from one until midnight and spent more money

being an alderman than I got in the form of a salary, so I did not profit financially from being an alderman.

Mr. Denny: Thank you, Mr. Douglas, now Mr. Reavis has another comment.

Dr. Reavis: That Paul Douglas, a professor at the University of Chicago, does maintain an unprejudiced and unbiased attitude in the classroom is certainly true, because I know that most of the leading Republican scholars of Illinois got their economics under him. *(Laughter.)*

Mr. Denny: Now, here's a question directed to you, Paul.

Man: I should like to address this question to Professor Douglas. What about the controversy of teaching subjects that are not controversial, such as sex facts?

Mr. Denny: Well, that's the subject of another Town Meeting. I think we ought to take the question from the gentleman right back of you.

Man: I'd like to address my question to Congressman Vorys. Don't you think that understanding basic emotions would eliminate such problems?

Congressman Vorys: How's that?

Man: Don't you think that true understanding of basic emotions would eliminate such problems?

Congressman Vorys: Well, I guess so. *(Laughter.)* Yes, I guess so. *(Applause.)*

Mr. Denny: All right, here's another

one for you, Congressman.

Man: My question is addressed to Congressman Vorys. How we encourage free discussion of controversial issues and still have a subject to control by institutional boards of governors as you suggested?

Congressman Vorys: Why, you have the controversial issues, you have the subject matter, you have the policy that Dr. Reavis has laid out, and there's a whole system for discussing it. If the professor goes off the beam, why he's properly disciplined. I don't think that, in the name of academic freedom or student's freedom, there should be complete license for students or the teachers themselves to say or do anything they please in the classroom. I think there should be a policy such as Dr. Reavis has outlined in his statement.

Mr. Denny: Thank you. Very quickly now, a question for Dr. Reavis.

Man: Dr. Reavis, would you favor using Town Meeting methods in teaching subjects of controversial content, and without coercion or stigma attaching to individual students?

Dr. Reavis: I certainly would.

Mr. Denny: Thank you, Dr. Reavis. Now, while our speakers prepare their summaries of tonight's question, here's a special message of interest to you.

Announcer: Tonight, we're very glad to announce that again this year, in cooperation with the Am

an Education Press, publishers of the high-school news magazine, *our Times*, we will conduct our customary Junior Town Meeting, in which four high-school students will participate. They will be selected on the basis of speeches of not more than 750 words on a topic to be announced later. These papers must be submitted through a school teacher or principal, and this contest is open only to regular students of recognized high schools throughout the United States and Canada.

In the meantime, we will be glad to have your suggestions about the subjects for this program, so listen regularly to Town Meeting and send your suggestions to the American Education Press, 400 South Front Street, Columbus, Ohio. The exact date and place of this Junior Town Meeting will be announced later. For more complete details and suggestions about how you can participate in this program, write to the American Education Press, 400 South Front Street, Columbus, Ohio.

Now, for the summaries of tonight's discussion, here is Mr. Denny.

Mr. Denny: Now our first summary from Mr. Darrell Lane.

Mr. Lane: Let's never forget that in the schools beyond the Iron Curtain there are no controversial issues. Thus, we here have an advantage if we use it, but we must use it right, to the benefit of our country. The taxpayers here

have something to say about how their money is spent. They will not favor any loose or slovenly system that uses tax money to pay the salaries of educators or school administrators who are committed to the downfall of our way of life.

Mr. Denny: Thank you. And now, Dr. Reavis.

Dr. Reavis: Mr. Denny, the agreement tonight among these speakers is most encouraging. When men like Paul Douglas, a Congressman as good as John M. Vorys, and a man like Darrell Lane agree that the schools shall teach controversial issues, that they may use any materials, even when partisan, within certain limits, and insist that we do it with an established policy, when you get this sort of agreement on that sort of a problem in citizenship education, I think we're making progress.

Mr. Denny: Thank you, Dr. Reavis. Now, a final word from John Vorys.

Congressman Vorys: I think all of us—teachers, board members, and parents—should remember we're not just teaching controversy, we're trying to have young people learn how to decide questions right. They must learn the impartial, scientific approach to avoid prejudice and bigotry, but we must beware of a tolerance that fails to protect fundamentals. We are responsible for teaching young people the faith that's in us—faith in a moral law, and a Repub-

lie with liberty and justice for all.

Mr. Denny: Thank you, Congressman Vorys. Now Paul Douglas.

Mr. Douglas: I believe the general presumption should be in favor of giving consideration to controversial issues in high schools and colleges provided the subjects are fairly presented and do not appreciably endanger the safety of society.

Mr. Denny: Thank you, Mr. Douglas, Mr. Lane, Congressman Vorys, and Dr. Reavis. We may not have settled this question for you tonight, my friends, but as I pointed out in the beginning, this is an extremely important question and one on which we've received very valuable advice tonight.

Our thanks go also to the Junior Town Meeting League of Cincinnati, Dr. Reavis and Station WSAI for their splendid cooperation.

Now, next week your Town Meeting returns to Town Hall in New York City. The topic will be one of the campaign issues: "Should the Taft-Hartley Law be Repealed?" Senator Joseph H. Ball, Republican of Minnesota, and Mr. J. Mack Swigert of Cincinnati say yes. Secretary of Labor Maurice J. Tobin and Senator Joseph

C. O'Mahoney, Democrat of Ohio, say no.

Many of you have been asking when will Town Meeting be televised. Well, here is your answer. Beginning Tuesday, October 5, Town Meeting will be televised regularly and almost continuously for the next six months, first from Town Hall in New York, simultaneously with the production of the radio program. In New York it will be carried by WJZ-TV, in Philadelphia by WFIL-TV and in Washington by WMAL-TV, and other stations as soon as they come available to the network.

The program on October 5 will be on the No. 1 topic before us today: "How Is Peace Possible with Russia?" The speakers will be the Honorable Robert F. Kennedy, former ambassador to Russia; Norman Thomas, Socialist candidate for President; Max Lerner, editor of the *New York Times*; and O. John Rogge, attorney and chairman of the New York State Wallace-for-President committee. So that all viewpoints will be thoroughly represented.

So, plan to be with us next Tuesday and every Tuesday, at the sound of the Crier's Bell. (plause.)

date have been satisfactory. We have closed temporary colostomies in 3 patients following electrothemic resection of the stricture. In 2 other patients the resected specimens revealed unexpected epidermoid carcinoma on routine histopathologic studies.

Granuloma inguinale. This distressing ulcerating lesion of the perianus, as elsewhere in the body, responds promptly to the broad-spectrum antibiotics (398).

Syphilis occurs rarely in the large bowel. A gumma usually forms in the submucosa and may break the mucosal barrier, causing ulceration of varying degrees closely resembling a neoplastic process (351).

VOLVULUS

In the United States volvulus, while important (63), is relatively uncommon; it is, however, commonly encountered in Europe and Asia. Volvulus of the sigmoid as a sole cause is responsible for approximately 20 per cent of all intestinal obstructions and about 2 per cent of all intestinal obstructions (165). Volvulus may occur in any segment of the colon including the cecum (95); usually it occurs in elderly persons but has been reported in children (129).

Lead poisoning may cause intestinal volvulus, especially in a patient with a long sigmoid or other predisposing factor (33). Torsions apparently resulting from plumbism have been observed in 5 Peruvians who had sigmoids 3 feet long but with narrow and pediclelike mesosigmoids (4 involved the sigmoid colon and 1 the small bowel). The diagnosis was facilitated by the intravenous administration of calcium which relieves pain of pure plumbism but increases the symptoms of volvulus. Surgical intervention was successful in 4 cases, but failure to operate resulted in 1 death. The predisposing factors include elongation or absence of the mesentery with a mobile gut (131), enlarged colon (129), constipation with a fecal hard bolus approximating fecal impaction (283), and megasigmoid (165, 131). The last has been ruled out as a cause of volvulus by the finding of normal ganglia of the myenteric plexus in the surgical and postmortem specimens; the sigmoid be-

resent consensus, tal, may be dan- tive (315), nor do spontaneously or

ective procedure. v process may be ed (109, 315), as leeding, purulent stulas. Further- es of epidermoid

is the excision of bowel by means n of the rectum

aving operation attery (52) first ng type of trans- of disease in the they perform a

ments on this the text), while anal and rectum they re-establish ation of abdomi- er, they dispose

ect colon, neces- unverse colon to anal. Eissenman d an ingenious he ileum. The

excised and the n to the intact However, in sufficient, a loop

try to bridge the past 5 years, we with high tubular om anorectal in- een suitable for ver, all of these t pelvic inflam- contraindication

less and may be

Siler and Bebb
 direct types of vio-
 terminal portion of
 traumatic agents
 pieces of wood and
 sharp metal objects
 and bullet
 anatomical sites of
 the a.
 fossa, (4) the re-
 and (5) the perito-
 produced by sudden
 by the introduction
Perforating injury
 frequently accorded
 struction of a pi-

wounds are trea-
 lar during World
 readily to coloni-
 Woodhall and Oc-
 iorization of wou-
 restricted to sever-
 segments of the
 colonic wounds
 caused by apisto-
 ducted by a sharp
 gut without invol-
 can be effectively
 or without debr-
 Woodhall and Oc-
 alone in 22 cases
 only 1 instance di-
 Necrosis, leakage
 peritonitis, absc-
 were not observ-
 Primary suture w-
 employed in 10
 per cent. These
 approach for the
 segment of the
 contraindicated a
 tion is impossible
 Exteriorization w-
 with 3 dead

that either untwists spontaneously or may be
 decompressed with the aid of a rectal rubber tube
 through an endoscope; grade 3, a volvulus of more
 than 180 degrees resulting in an irreversible, com-
 plete, but viable closed loop type of obstruction,
 and grade 4, a volvulus of more than 180 degrees
 with irreversible and unviable complete closed
 loop obstruction (131). An incidence of 66 per
 cent of infarction of the sigmoid and its mesentery
 was found in the presence of complete obstruc-
 tion (165).
 Roentgenologic signs are frequently inconclu-
 sive. A "bird's bill" or "ace of spades" type of
 deformity has been described. Recently, a new
 sign has been described (32) which shows a uni-
 form diameter of both segments of the intestinal
 arch which has been produced by the distended
 sigmoid colon.

For sigmoidal volvulus, cecostomy is an ineffec-
 tive and illogical procedure (63); in fact, proximal
 decompression of any type is contraindicated.
 Fixation procedures are unsatisfactory as are
 mesenterly-shortening operations (129). Detor-
 sion alone, either performed at laparotomy or, as
 already indicated, done endoscopically is ineffec-
 tive because of the high incidence of recurrence
 of the volvulus, but it is acceptable as a temporary
 procedure to tide the patient over for a delayed
 intestinal resection or in the case of debilitated or
 otherwise poor-risk patients. Recurrences fre-
 quently necessitate subsequent resection "not of
 election but of desperation" (165) because of
 vascular irreversible damage (infarction). In the
 presence of gangrene an exteriorization type of
 operation is desirable (50, 276), but this procedure
 may not be possible if the point of torsion of the
 distal or effluent loop is too deep in the pelvis (50);
 in this case a Hartmann type of resection (inver-
 sion of the distal loop and construction of a proxi-
 mal colostomy) may be necessary (131). Under
 favorable circumstances and in interval cases, re-
 section of the volvulus below the twist and im-
 mediate end-to-end open anastomosis is the most
 desirable procedure (63, 165, 276).
 For cecal volvulus simple detorsion and fixation
 are indicated in the absence of gangrene, while the
 presence of gangrene demands resection (95). For

Perforation by coagulation. This injury is "not as uncommon as we would like to believe" (256). The tear usually occurs on the antemesenteric aspect of the colon above the peritoneal reflection and can be easily found and sutured at laparotomy which should be performed as soon as the patient has recovered from shock. Conservative therapy is advocated for patients in whom perforation is not recognized within 24 hours or for patients who are extremely poor operative risks.

Perforation by enema. The rent in the bowel occurs in about the same area as that produced by the proctoscope, but the accepted treatment is prompt surgical intervention (146, 380). It should be kept in mind that the colons of older people are particularly vulnerable to tears although a normal colon in a conscious person can be perforated without the use of much force. Berk (34) reported a case of perforation following a diagnostic barium enema. Perforation of colostomy loops may be caused by enema tips used for irrigation (151).

Perforation caused by coagulation. Myers and Bernstein (256) again called attention to perforations in the upper rectum and lower sigmoid produced by surgical diathermy employed for the eradication of polypoid growths. They are certain "that many minor perforations occur that are unrecognized" and they base this statement on evidence obtained "upon exploration of the abdomen for other reasons subsequent to the fulguration."

Foreign bodies introduced into the rectum via the anus include bottles (270), thermometers (227), and a variety of other agents (199). These do not require emergency care; they should be given a chance to pass spontaneously unless they are large, fragile, and breakable, or if a perforation has already occurred. Foreign bodies that are swallowed may become arrested at the pyloric ring, the ileocecal valve, at the colonic flexures, in the rectum just above or at the pectinate line, or, very often, in the anal crypts (317). If the foreign body becomes arrested in the intestinal tract it should be removed promptly by incision and closure; resection of the involved segment of the bowel is unnecessary (317). The foreign body

with ileotransverse resection with im- voided. It should serious colonic in- ar serious injuries to what are lethal in an unflinching policy der of every ante- otherwise small ly overlooked with nt; this procedure peritoneal leaves. Laftman's (204) estabished during valid for civilian drainage by either or a curved trans- the coccyx, com- the fascia propria large wound (small and colostomy. cess the coccyx has ss with the closure colostomy is suffi- fect in the rectum; stomostomy far away of the transverse astic repair of the ation of bowel or procedure.

at the primary nt the subsequent hich are not easy to ce closure of rectal d no matter how e of the endoscope tence of a rectal duced by its use s diagnostic pro- diagnosis. injury or complete inter muscle may nal canal may in- aces as well as the toscopic examina- ally required.

initial pathologic change is a weakening or collapse of the supportive structures rather than a widening and thinning out of the hemorrhoidal vein resulting in herniation of these vessels; this work needs confirmation particularly since photomicrographs have not been included in their article. (Also see Klemperer's remarks on collagen disease noted under ulcerative colitis. These apply particularly to hemorrhoids).

Fournier (118) listed six known anatomic factors that might be related to the pathogenesis of hemorrhoids, and stressed particularly (1) the lack of fascial support of the hemorrhoidal veins, and (2) the looseness of the submucous connective tissue of the anorectal region. Based on these anatomic concepts he advised an "obliterative suture" technique of hemorrhoidectomy to be discussed shortly.

Occupational strain. Zager (401) believes that muscular strain such as lifting and increased intra-abdominal pressure is a predisposing factor to hemorrhoid formation. He reported the histories of 3 workers who developed anorectal symptoms after heavy lifting or pulling and who had been granted compensation as the Workmen's Compensation Act pays for aggravation as well as for direct cause. (Also see *Am. J. Surg.* 1952, 84: 551).

Injectional treatment. Terrell (340) is continuing to champion sclerosing therapy for the treatment of uncomplicated internal hemorrhoids. These lesions should be small to medium in size and, preferably, nonprolapsing. If mild prolapse is present it should be spontaneously reducible. Terrell believes that this form of therapy may bring about not only symptomatic relief but also a cure comparable to that obtained after surgical treatment. On the other hand, Bacon and Moran (16) believe that for permanency of cure, hemorrhoidectomy is the procedure par excellence and that patients subjected to sclerosing therapy should be apprised of the limitation of this therapeutic regime. It is generally conceded that no one should treat hemorrhoids unless he is familiar with the injectional and surgical therapies.

Surgical treatment. Myers and Summers (257) described a "mucosa and skin-saving technique

logic tissue become relieved to lessen the ter muscle and the too little tissue. continence, stenosis, delayed healing, and more, the amount the use of the ring procedures. The Fournier's oblit

the manner of exc maxin, "Success tails." Spinal ane or jackknife posit ing table are fav toms after heavy lifting or pulling and who had been granted compensation as the Workmen's Compensation Act pays for aggravation as well as for direct cause.

One of us (*Sum* 677) has recently techniques of the and discussed the closed procedures, During World afforded to comp the open type o semiclosed and clo The semiclosed me essentially the sar the subcutaneous

bed were approxi

advised the use of generous incisions in the perianus, the performance of a sphincterotomy, and the subcutaneous and submucosal injection of 95 per cent ethyl alcohol. Bloomenthal and Bendix (49) inject a sparsely absorbable, oil-soluble anesthetic directly into the external anal sphincter muscle at the time of operation to eliminate spasm and resulting pain. At the time of the present writing the profession is flooded with a new long-lasting, water-soluble anesthetic solution for this purpose. It may be stated most emphatically that after a properly performed hemorrhoidectomy there should be no need for the employment of these often disappointing and potentially dangerous (224, 351) anesthetic solutions; posterior sphincterotomy is certainly a wiser procedure. We have also been unimpressed with the alleged value of d-tubocurarine chloride (Anesthesiology, 1952, 13: 370). (Personal unpublished data).

Prolapsed hemorrhoid. For the relief of pain caused by prolapsing hemorrhoids, procaine hydrochloride injected intravenously has been employed by Schaff and Spendlove (314). Prompt surgery is preferred to this form of therapy. With regard to the prophylaxis and treatment of complications of proctologic surgery, of which hemorrhoidectomy is most common, retention of urine, hemorrhage, adenomatous anal tags, delayed healing of wound, abscess formation, incontinence (see elsewhere in text), and stenosis have been discussed (272, 326). A plastic surgical procedure for the correction of postoperative anal stenosis has been described and illustrated (355).

PROLAPSE

Practically all authors agree with Moschcowitz (255a) that massive rectal prolapse involving all layers of the bowel (proctodentia) is a sliding hernia of the anterior wall of the rectum and that the apex of the prolapse is the cul-de-sac of Douglas. Ripstein (299) has stated that this defect is brought about by stretching and atrophy of the transversalis fascia and the suspensory ligaments of the rectum. Jackman and Cannon (178) stated that in at least 10 per cent of the cases of prolapse in inveterate patients the condition may persist but thus avoid bridge-

objectionable (it is a poor policy to fix movable organs to an immovable support—Hirschman), Stabins performs a one-stage resection of the prolapsed bowel with an immediate end-to-end anastomosis as well as restoration of the pelvic peritoneum. In short, the pelvic peritoneum of the bowel is incised on either side and anteriorly near the base of the bladder, the flaps are freed laterally as in an "anterior resection," and the rectum is mobilized from the hollow of the sacrum as in an abdominoperineal resection without division or damage to the superior hemorrhoidal vessels. With the rectum held taut, the redundant bowel is resected and an open end-to-end anastomosis is effected. We have employed this operation minus resection of the bowel three times with good immediate results.

An anterior resection type of operation was recently successfully performed for a huge proctodistoma in which, because of the disparity in the lumen of the resected bowel (the caliber of the rectal segment being wider), it was necessary to employ a Hoffmeister type of anastomosis (347).

Ripstein's (299) technique calls for the formation of a new pelvic floor by the employment of a graft of fascia lata after division and excision of excess peritoneum in the cul-de-sac. This procedure is said to provide adequate anterior support to the bowel and to restore the normal posterior curve of the rectum which is believed to be straightened in prolapse so that the bowel runs in a vertical position. A report of the late results of the combined abdominoperineal technique described by Dunphy (100) may be expected in the near future.

The foregoing operations fail, however, to restore the atonic sphincter muscles which have been stretched to various degrees by the prolapsed bowel. This feature can be overcome by the employment of a simple anoplasty or the Thiersch operation (see comments on the discussion of incontinence) or by the employment of our modification of the de Lorme technique (351).

Tordoir (346) employed the Thiersch operation for the treatment of prolapse in children. Recently one of us (R. T.) has successfully employed this operation in 2 adults and 2 children. The results

Pyogenic. Anal abscess. In all cases are the sources of discussion of a treatment of fistulousness of the chronicity of the operators prefer fistulectomy (a Hipocrates) (360). favor upon fistula an incomplete operation site for the development after the operation of cancer). C disposes of the fibrous wall as well as including the anal fistulas tend to pair, while anorectal fistulas) may pose Wagner (369) number of tracts the first operation provided to permit healing out without fear promulgated by J. ago. Wagner before of tracts was intervention is a complete excision of the an appropriate place where in the text require complete as they seldom produce; most of the sphincter muscle muscular septum tidual muscle of when the deep of sphincter muscle

prevents approximation, abets separation of the severed ends, and results in ineffective healing of the sphincter muscles which in turn will promote

Tuberculous. Jackman and Smith (183) re-

ported 2 cases of primary tuberculous anorectal fistula with possible spread to the lungs. The incidence of primary tuberculous in the anorectum is about 1 per cent; perianal tuberculous is usually secondary to tuberculous in other parts of the body, namely, the lungs, urinary tract, and bones. Knapp (201) advocated curative surgical therapy for the tuberculous anal fistula supplemented by antibiotics (see chapter on antibiotic therapy). However, he employs a semiclosed procedure. Wagner (369) observed effective healing in average time, but Gerendasy (130) noted retardation in the healing of the wound although his final results were satisfactory.

Hidradenitis suppurativa about the perianal region is frequently confused with anal fistulas (75, 182). Incidentally, some of these cases responded to broad-spectrum antibiotic therapy (399), while other cases constituted a surgical problem (149).

INCONTINENCE

As a rule, incontinence follows either obstetric procedures or operations performed upon the anorectum; it occurs most often following the performance of an incompetent fistulectomy. Recently, a number of plastic procedures have been described. One of us (362) has, for the first time, utilized the Bunnell type of tendon suture in the repair of the severed but well dissected ends of the anal sphincter muscle for the successful restoration of continence. In Birnbaum's (39) procedure the dissection is less extensive; excessive scar tissue is removed en bloc but enough scar tissue is left at the muscle ends to receive and to hold firmly steel alloy sutures. The steel sutures are laid with each passing through a loop of a pull-out wire so that when the sutures are tightened the direction of the pull is tangential to the circumference of the sphincter muscle, the muscle ends to the apposed being held in the direct line. The sutures are secured to the surface of the skin with buttons. They are drawn up and tightened sufficiently and have abandoned

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suture of the bare ends of the sphincter muscle but without colostomy. Ingelman-Sundberg (176) described a plastic procedure utilizing the pubo-coccygeal muscle. Gabriel (121) has recently resurrected the simple Thiersch operation for anal incontinence which, although never published, was practiced as early as in 1889 (96). Dodd has described well and illustrated an aseptic method of the Thiersch procedure (96). One of us (R. T.) has prepared a motion picture of the Dodd modification of the Thiersch operation.

STENOSIS OR SPASM (PECTINOSIS?)

This subject merits discussion because of the existing confusion. Newton and Mac Gregor (263) have described "a clinical entity of spasm and fibrosis of the sphincter ani, with marked constipation, chronic excessive use of cathartics, and vague symptoms of abdominal discomfort, anorexia, cramps, tenesmus, and flatus. Treatment consists of anal dilatation with or without partial division of the external sphincter." Morton (253) subscribed to the foregoing and reported its occurrence in 90 private patients seen during a period of 12 years. Spiesman (328) stated that so-called pecten bands are absent in normal rectums but that these are a distinct pathologic entity. He failed to recognize that the "band" lying beneath the pectinate line actually resides within the subcutaneous component of the external anal sphincter muscle and may be composed of fibrous and muscular or only of muscular tissue (101). Our own observations tend to the belief that this syndrome consisting of narrowing of the anal canal with spasm and/or fibrosis of the anal sphincter muscle is, in some cases, produced by dysfunction of either the subcutaneous component of the external anal sphincter muscle or the muscularis submucosae ani which is situated in the region of the pectinate line (see discussion on anatomy). In other individuals, inflammation and infection of the anal glands, ducts, and crypts with resultant fibrosis, which involve the subcutaneous component of the external anal sphincter are responsible. In still other persons this syndrome may be the outcome of an anxiety-determined hypertonus of the

otomomy. The latter fused with pecten and hence an unvoid of permanent classic and modified terotomy have been (355). These proconvalescence and are definitely "pectenotomy" an ineffective digital combined with "partial" (263).

Anogenital pruritus suggests that none Comedones in the severe itching (2) zymes with the str (367); in some cases administration of lauryl sulfate which plexes. This form tive in the present (367). Some patients recalcitrant to est respond to the topic minic drug (360). Similar application fatty acids; it is common patients is the result of normally present and that this deficit of the fatty acid chloride administered employed for the Complete relief was cent of the cases, 54 per cent, while 29 to 38 per cent (Hyperhidrosis in may be a cause of the oral use of bant The value of co one of us (J. Am. J. Surg.)

would have been higher. Parenthetically, it may be added that follow-up studies based on a questionnaire in contradistinction to personal re-examination are at best not too reliable as asymptomatic recurrences are missed for some time. This high rate of recurrence alone does not commend this operative procedure as a "rational" treatment. Furthermore, from personal experience we know that while this technique is satisfactory for small lesions it is not satisfactory for the treatment of large cysts and/or sinus tracts.

The authors condemn "block dissection" as "there is no place for 'en bloc' dissection in the treatment of benign conditions." Is it not yet generally known that because of the few complications and consistently good results obtained, many surgeons, some even of wide experience, continue to favor this operation in spite of the prolonged period of healing?

Kleitisch and Cherry claim that the musculo-fascial flap procedures "are entirely too complicated to be considered good treatment for pilonidal sinus. It is like doing a hemicolectomy for appendicitis or a proctectomy for hemorrhoids." However, many experienced surgeons (Holman, Pope, Mohardt, Shute and Burch) have found these reconstructive gluteal fascia flap techniques to be satisfactory for the treatment of large uninfected primary and recurrent cysts and sinuses recently at a Veterans Administration Hospital (167a) in a comparative study of the open, partial, and complete closure techniques.

Yet these authors are not quite correct in their statement, "Irradiation of a pilonidal sinus is not generally accepted as the best treatment." Roentgen therapy has not been claimed to be the "best" treatment; on the contrary, it has been stated that treatment of primary lesions (361). Irradiation was "advocated as a substitute for operation for recurrence of infected sacrococcygeal sinus" (*Survey*, Kleitisch and Cherry consider local infiltration anesthesia the anesthetic of choice and cite 4 references in support of their contention. Although the literature was reviewed from 1940 to 1950 for

officially located, cleared by the following, and Katz method of excision of the number of cysts and sinus believes that a primary closure is not results which have should be at ill patients." We view to this sub-gluteal fascia technique and a highly satisfactory is not a pre-reconstructive

one of us (350) disposition of the or thick split-skin in the sacro-but he disagrees skin in the strain incidence of the civilian population or assuring and skin constitutes the sacrum and immediate protective in the case of the open operation, e avoidable to trauma. thickness grafts. was this weakness and skin that led us which provides any structures. review a few appeared in the lit-tsch and Cherry with because of its

d a technique of e sinus and gran-

local or infiltration anesthesia was 46.8 days. Other types of regional or inhalation anesthesia are equally useful. To state that infiltration anesthesia "is so far superior to other types of anesthesia that it can be objected to only by those unfamiliar with the technique" is unwarranted. Buie (59a) is adhering to his so-called "marsupialization" operation which utilizes portions of the scar tissue or the cyst wall. He listed 12 advantages in favor of this operation. One of them is that the rate of recurrence is negligible, although no figures are presented. Another of the advantages is that "it is not necessary to make deep wounds which involve the sacral fascia or peritoneum." For comment on this statement the reader is referred to the studies of Pope, Holman, Mohardt, Hoffert, and Healy, and our own (361). One of us (R. T.) has abandoned the marsupialization technique because he considers it an incomplete surgical procedure. Our procedural policy is to remove all of the cyst wall and any scar tissue (which on microscopy is frequently found to be infected); even the rarely reported occurrence of a neoplasm in the cyst wall favors total ablation of the cyst (361). (See comments on cancer arising in sinuses and fistulas elsewhere in the text).

PEDIATRIC ASPECTS

The subject of pediatric proctology has become so vast that a separate review was deemed advisable and was published recently (356). The interested reader is referred to this special review. A new review is now in the process of preparation.

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MISCELLANEOUS

GENERAL PHYSIO- LOGICAL PRINCIPLES

Lateral Thoracic
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sue of the thoracic
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and is situated just
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extends upward to
apple at the lower
muscle; in others, it
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e term "sclerosing
ic wall" be used to
ort Lazarus, M.D.

Al Disease. A. D.
Brit. J. Surg., 1952,

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infectivitis sicca), dry
parotid swellings,
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patients with non-

Symptomatic treatment, including a discussion
of the treatment of keratoconjunctivitis sicca with
artificial tears provided by a dropper, or a mechan-
ical dropper fitted to a spectacle frame, is described.
W. FOSTER MONTGOMERY, M.D.

**Terebrant Rodent Ulcer with Widespread Blood-
Borne Metastases.** ALAN H. HUNT. *Brit. J. Surg.*,
1952, 40: 151.

A case is presented to place on record the excep-
tionally wide dissemination of a rodent ulcer of the
terebrent type. The patient, a 65 year old woman,
was first treated at the Royal Cancer Hospital,
London, in November, 1947, for a large ulcerating
mass spreading from the inner to the outer angle
of the left eye. The mass started from a pimple at
the inner canthus, 4 years previously. The histo-
logically basosquamous cancer was removed with
sacrifice of the left maxilla from the hard palate
upwards and exenterating the orbit.

Biopsy specimens were made up to 6 months
following the excision and failed to reveal recur-
rences. The defect was then covered with a double
layer of skin by raising a pattern of skin from the
forehead and covering the defect with a dermatome
graft which extended up over the flap, but cover-
ing the epithelial surfaces of the two skin flaps
with a sheet of tantalum foil. The repair was com-
pleted at a second stage when the flap was trans-
ferred into place over the defect.

In May, 1950 the patient was readmitted with a
sternoclavicular mass which proved to be a baso-
squamous carcinoma identical with the original
tumor. Roentgen films revealed secondary de-
posits in the lumbar vertebrae. A recurrence de-
veloped in the orbit and a pathological fracture of
the left femur occurred. Death occurred approxi-
mately 7 years after the first symptoms and 3 years
after the maxillary resection.

The blood-borne spread of a basosquamous car-
cinoma appears to be quite exceptional and may
have unavoidably occurred at the time of the
resection.
W. FOSTER MONTGOMERY, M.D.

Pigmented Basal-Cell Tumors of the Skin. J. H.
W. BIRKBEIL. *Austral. N. Zealand. J. Surg.*, 1952, 22:
47.

A series of 1,780 basal cell tumors and 650 melan-

survival according to the age of the patients, of whom 40 per cent were found in the young years of age. The apparent onset of the disease was the worse (1 cm. or less) than with a large tumor.

EXPERIMENTAL

Some Effects Upon the Venous System of the Liver. Roy, J. B. (Surg., 1952, 32: 2). The authors describe the results of a procedure for the removal of the blood supply to the liver. Although the immediate purpose of the procedure is the removal of the liver tumor, the new procedure is the plan used to perform an end-to-end anastomosis of the portal vein by means of the operative method. The operative method and the postoperative examinations showed anastomoses in most cases had been of the lobular type, which had been of the hypertrophic type. The clinical application only be postulated created a feasible method.

The pigmented tumors behave in the same way as the nonpigmented, otherwise comparable, tumors and their practical importance is their differentiation from melanomas. It is shown that there is confusion between these two groups of tumors.

The available literature on pigmented basal cell tumors is briefly reviewed.

Malignant Melanomas. J. MAXWELL CLARKE. *Austral. N. Zealand J. Surg.*, 1952, 22: 8.

In go cases of malignant melanoma seen at the Auckland Consultation Clinic between 1929 and 1946 it was believed that light brown moles may be let alone except for cosmetic reasons and that the hairy raised black patch rarely became malignant.

The dangerous moles were considered to be the dark brown, black, or blue-black ones which are subject to trauma or irritation. The only treatment to be applied, the author believes, is complete excision with examination by the pathologist. Diathermy, cautery, carbon dioxide snow, and similar measures should not be applied to the nevus or mole because malignant changes may occur following such treatment. Neither should biopsy sections be taken from the mole except in the case of a finger or toe, in which case amputation may be indicated if malignancy is present. Malignant nevi are believed to be rare in children.

The mole shows some change in color, size, or bleeding. The authors have analyzed the mortality percentages according to three types of treatment; local excision only, early excision of the glands, and late excision of the glands (3 months to 1 year).

Of the series of 25 patients subjected to simple local excision, approximately 30 per cent were dead in 2 years. Of the second group of 16 patients who were subjected to early excision of the glands, about 32 per cent were dead in 2 years. Of the third group of 10 patients whose glands were excised late, about 80 per cent were dead in 2 years.

The thigh, trunk, and neck lesions appeared to have the worst prognosis, while lesions of the head area, the legs, and the digits appeared to be more benign. There was a surprising difference in the 5 year

ABSTRACTS OF SURGERY

MAY, 1953

NUMBER 5

LECTIVE REVIEW

ANORECTAL FUNCTION AND DISEASE

D., F.A.C.S., New York, New York, JOSEPH S. KRAKAUER, M.D.,
sey, and AUBRE de L. MAYNARD, B.S., M.D., F.A.C.S.,

New York, New York

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to 25 per cent of
arbohydrates and
her daily caloric
protein as to the
negative nitrogen exchange usually occurs after an
operation even of a well nourished, previously
healthy person. The cause of this phenomenon is
a matter of dispute. The maintenance of a dy-
namic protein equilibrium requires many of the
component amino acids of complete proteins.
A patient with colonic cancer very often shows
anemia and hypoproteïnemia. In the past anemia
was studied by determining the values of hemo-
globin, the hematocrit readings, and the total
protein per 100 c.c. of plasma. Preoperatively, a
hematocrit of 42 and a total protein of 7 gm. or
more per 100 c.c. of plasma are required (384).
Recently, it has been shown that because of con-
siderations of hemodilution, hemoconcentration,
and related factors, total blood volume or red
blood cell mass determinations are more accurate
indexes of the foregoing deficiencies and better
guides for effective therapy.
Anemia and hypoproteïnemia are combated by
an integrated program of oral feedings of protein
and the parenteral administration of blood and
blood substitutes. Transfusions of whole blood or
of washed red blood cells are par excellence for the

such as homologous serum jaundice (135), depression of erythropoiesis, polycythemia, and hemolytic or pyrogenic reactions (338). Plasma proteins, although they carry the risk

Plasma proteins, although they carry the risk of cardiovascular complications and are delayed in metabolism, are nevertheless capable of supporting the protein economy for some time in the dog as well as in man (287). Of the plasma substitutes only osseous gelatin is a worthwhile

Protein hydrolysate and amino acid, usually administered intravenously, are useful in the nutrition of patients who cannot or refuse to eat and who cannot take a sufficient amount of food by mouth. The hydrolysates that are prepared by acid hydrolysis also contain tryptophane and methionine. Most of these products are bottled with dextrose for its protein-sparing capacity and for its caloric value. Less than 2 gm. of salt is added to each 50 gm. of amino acid.

Rice and his associates (296) have shown that adequate daily carbohydrate, amino acids, and calories without excessive hydration of the patient can be provided from 3,000 c.c. of an intravenously administered solution containing dextrose (5 per cent), amino acids (5 per cent), and alcohol (7.5 per cent). Of course, to this solution electrolytes and vitamins may be added as desired. Incidentally, this alcohol solution provides sedation and some analgesia which have additional value in the preoperative and postoperative control of the patient. More recently, these authors (297) have developed an ideal solution which contains 1 calory for each cubic centimeter, making the numerical figures for the caloric and fluid intake the same. This solution contains 6 per cent of amino acids, 5 per cent of ethanol, and 12 per cent of invert sugar. The usefulness and safety of invert sugar have been established by Weinstein (384). The invert sugar is an acid hydrolysate of cane sugar; each molecule is broken down into one molecule of dextrose and one molecule of fructose. The amino acids are from the enzymatic digest of bovine plasma or the acid hydrolysate of casein. Absolute ethyl alcohol is utilized. The average patient receives about 2,500 c.c. of this solution per 24 hours. Blood

Sodium chloride. The normal intake and urin-

ary excretion of this element varies from 2 to 4 gm. per 24 hours or 250 to 500 c.c. of normal saline (216). The requirements of sodium chloride are altered in the face of renal disease and consequent inability of the kidneys to retain sodium, or in the presence of extensive external loss of sodium-containing body fluids. Because of the presence of impairment of the renal blood flow during an operation and the postoperative likelihood toward transient retention of sodium, as observed long ago by Coller and others, no saline solution should be administered to patients during the operation and the subsequent 2 or 3 days after operation. In the presence of a significant loss of extracellular fluid during this 3 day period, it should be replaced with a solution containing 0.5 per cent of sodium chloride and 5 per cent dextrose. It should be kept in mind that the kidney may retain sodium and yet excrete chloride in nearly normal amounts so that the patient's need for sodium may be quantitatively quite different from his need for the chloride "ion" (216).

An important article on water intoxication in surgical patients in whom there was a definite depletion of the chloride level appeared recently; the serum chloride was as low as 75 mEq per liter in some of the patients (the normal being 100 mEq/L) (404a). Sudden convulsive seizures occurring from 12 to 48 hours after operation and intracellular edema caused by excessive dilution of the extracellular fluids and lack of sodium chloride have been reported. These seizures can be prevented by the avoidance of excessive amounts of dextrose solution during operative procedures and during the days immediately after the operation and by the administration of judicious amounts of salt. A question is pertinently raised whether it would not be wiser to administer 4.5 to 9 gm. of salt the day after operation rather than to withhold sodium chloride during the first postoperative day; such a policy would also prevent giving considerable amounts of salt-free dextrose solutions during the immediate postoperative period when the patient supposedly cannot tolerate this load. The treatment of this complication is the administration of hypertonic saline solution (2%)

Knotted when intestinal capture of the intestine of the tip of the ability to withdraw result from occlusion Patency of the air tion with the balloon

place of intestinal of the colon for sur- the text.

Blood trans- that during an ab- the rectum a loss of is (210, 309). Dura-

essness about hemo- is regard. It is now lost during the per- tion in order to pre- tick which may be cent loss of the cir- At the same time

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cent dextrose solu- also be given during

n of this important this review. Suffice of the physician- to the patient and anesthetic agents, imonary aspiration, an anesthetist. The esthesia for radical

52a). The course of preparation of nutrition per- Excellent nutrition The average pa-

tion containing, per liter, 3.7 gm. (63 mEq.) of sodium chloride, 1.3 gm. (17 mEq.) of potassium chloride, and 3.74 gm. (70 mEq.) of ammonium chloride with 100 gm. of dextrose, and (2) an intestinal solution consisting of 5.1 gm. (88 mEq.) of sodium chloride, 0.9 gm. (12 mEq.) of potassium chloride, and 5.6 gm. (50 mEq.) of sodium lactate with 100 gm. of dextrose. The gastric solution replaces the losses incurred through gastric suction or vomiting, and provides chloride in excess of sodium with 17 mEq. of potassium to prevent the occurrence of metabolic extracellular alkalosis which in turn leads to intracellular potassium depletion. The intestinal solution replaces the losses sustained through intestinal suction or biliary or pancreatic drainage, and provides sodium in excess of chloride with 12 mEq. of potassium, thus preventing the occurrence of metabolic acidosis. This therapy is well tolerated and may be combined with additional nutritional parenteral therapy (8).

Salt therapy in hypoproteinemic patients who hold extra water in the extracellular spaces is better accomplished by meeting the protein deficit with transfusions of blood or blood substitutes than by simply withholding salt and thus allowing the sodium level to fall to normal.

The terminology of the electrolytic elements is now undergoing a change from expression in terms of milligrams per 100 c.c. of fluid to milliequivalents per liter just as the metric system in gravimetric and volumetric expression is superseding the old methods.

(1) Depletion of potassium is also excreted some is also excreted the growth of new potassium, except for and to the kidneys, and delivered by the milliequivalents. It per day is approximately The normal intake

Potassium. The student of colonic disease became keenly aware of the clinical importance of the element potassium in 1945 when Darrow (86a) showed low levels of potassium in the serum of infants with diarrhea and the migration of intracellular potassium to the extracellular spaces. Subsequent studies by Darrow (87) and his associates on the loss of body potassium in excess of body nitrogen in infantile diarrhea have a bearing on the problem under discussion and will be detailed here. They showed that (1) the amount of intracellular sodium may be slightly high during hydration; (2) administration of sodium chloride without sodium bicarbonate should suffice to re-

was replaced at the time of the operation, there usually is no need for further blood transfusion.

Ambulation and type of incision. Early ambulation, namely, the day of the operation or the following day, is practiced (208). It is not enough to get the patient out of bed and have him sit in a chair; he should move about the room or corridors. Collier (343) and his associates believe that when early ambulation is combined with the employment of the transverse abdominal incision there is a lowering of the incidence of all postoperative complications and a shortening of the patient's postoperative sojourn in the hospital. They believe that the transverse incision is the most physiologic surgical approach to the peritoneal cavity, and is safer for early deep breathing, coughing, and bed exercises. The incidence of wound dehiscence or separation is definitely lower than that following the use of vertical incisions. Of interest is the conclusion reached by Hawk and Oser (157) that "there may be no parallel drawn between the relation of wound disruption to sex, age, cancer, obesity, pre-evisceration complications, day of disruption, suture material, hypoproteinemia, vitamin deficiencies, and the preoperative and postoperative courses. Proper closure of the peritoneum is essential in preventing small defects." Wolff (393) is in agreement only with the last thought and disagrees with most of the remaining ideas.

Postoperative venous thrombosis. Ochsner and his associates (265) have introduced alpha tocopherol (epsilan M) for the treatment of postoperative venous thrombosis. At the time of writing their article they administered alpha E tocopherol orally in dosages of 200 international units every 8 hours. If the patient cannot take the medication by mouth, alpha tocopherol phosphate (epsilan phosphate) is administered intramuscularly in dosages of 100 mgm. every 8 hours with 10 c.c. of 10 per cent solution of calcium gluconate given intravenously every 24 hours. Leithausser (208) believes that early ambulation and specific leg exercises have solved the problem of postoperative embolic complications of his patients. The value of trypsin as an anticoagulant drug has been challenged (unpublished data).

able, should consist
m by mouth, other-
m of chloride and
nistered parenter-
aced by the addition
ents (3 to 5 gm.) of
milk or fruit juices.
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not exceed 20 milli-
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coronary occlusion the anesthetist must avoid operative time, to avoid hemorrhagic or surgical shock, and to prevent or effectively control non-cardiovascular complications. Whenever myocardial infarction occurs it should be diagnosed and treated with dispatch.

Lower nephron nephrosis. This relatively new term is encountered in the recent surgical literature. This syndrome may occur as a result of peritonitis or a blood transfusion reaction, and is characterized by oliguria and anuria of from 5 to 10 days' duration. The tubules of Henle or the lower nephron is unable to reabsorb the water normally filtered from the blood by the glomerulus. During this time enough fluids should be administered to replace the insensible loss or that occurring as a result of suction, and the patient is observed and treated symptomatically. However, when normal renal function returns excessive amounts of water and sodium may be excreted in a short period of time so as to produce shock and require electrolytic replacement on short notice (309).

Biochemistry in colonic obstruction. Grahame (145), unable to find any literature dealing with the biochemical changes of colonic obstruction in man, studied this problem in 40 consecutive patients with obstruction of the colon due to cancer before operation and for 3 days after operation. He found that the chemical changes in the blood occurring in acute obstruction of the colon depend on the presence or absence of distention of the small bowel and the associated vomiting. Lower plasma volume due chiefly to the lack of albumin and water was discernible in acute colonic obstruction uncomplicated by marked small bowel distention and vomiting. On the other hand, in the presence of concomitant small intestinal distention, a lowered plasma volume, great loss of chloride and albumin, and an elevated level of plasma potassium were present. Elevated non-protein nitrogen and potassium levels in acute colonic obstruction with distention of the small bowel suggest that kidney failure may be an important factor in the cause of death in these patients.

responded poorly to postoperative abdominal panthionate; this procedure of cancer treatment based on the results in the foregoing paragraph.

Colonic cancer.

right colon proximal colectomy with distal colic and right colic flexure and the anastomosis performed (153). The ileum and the a branches of the middle of the middle c Both the hepatic a necessary. The produced or offset by section should be c of the distal trans flexure as the lymph the middle and let transverse mesocol nodes should be re flexure may metast of the spleen which Cancer of the des spreads laterally w which necessitates Under these circum colic vessels are sa the superior hemor by severance of th the aorta. This w with anastomosis c the rectum. Such tainly justified in the regional lymph moveal of the spec However, Welch study of their 205 concluded that a

The operation of obstructive resection still remains a useful operative procedure, and should not be supplanted. Garlock and Klein (124) believe that obstructive resection is preferable to primary anastomosis in the following four situations: (1) great disproportion in the size of the lumen of the bowel proximal and distal to the lesion, accompanying subacute or chronic obstruction; (2) pericolic abscess or infection; (3) an excessively fat mesentery obscuring the vascular pattern, and (4) a poor systemic condition of the patient, particularly incident to old age. Broidenbach and Slattery (53) have employed obstructive resections in 2 instances of large, free perforations with spreading peritonitis. Incidentally, they prefer an intraperitoneal anastomosis to spur crushing and extraperitoneal anastomosis. At this terminal operation, a wider intestinal resection was effected because of the belief that an insufficient excision of the gland-bearing mesentery had been performed during the initial operation. There is complete unanimity of opinion as to the necessity of the decompressive proximal vent for obstructive lesions of the colon. Cecostomy is valuable for lesions situated proximal to the sigmoid while a loop type of colostomy in the right portion of the transverse colon is employed for lesions of the sigmoid and for those still more caudally situated (53, 173). Of the cecostomies, the exteriorizing type appears to be superior to the tube type although the latter has adherents among excellent surgeons. It should be recalled that the cecum and the right segment of the transverse colon are the most accessible portions for decompression in a bowel that may assume an enormous size.

After a McBurney type of incision and (246) under infiltration anesthesia, Meyer packs off the cecum from the rest of the abdomen and uses a fine needle for suction to relieve gaseous distention. This procedure is facilitated by the use of a Hunt clamp which has a central opening that makes possible the insertion of a catheter for prompt decompression. Parenthetically, obstruction of the colon in the presence of a competent ileocecal valve forms a closed loop type of obstruction that is comparable

to that there is cancer may thus may have been scrutinized, and the bowel adjacent continuity of the transected colon direct inspection especially, the opportunity with which accuracy and younger performance of many as based not on type of anastomosis. The significant regarded as a boon (38). One-stage re-anastomosis may be performed nearly always (53). The de-anastomosis continues (53), although primary, nonperforative, open end-to-end anastomosis favors primary anastomosis. However, to operative group of 205 patients. The operative group would have survived if all have been removed. 5 years, so it is might have lived anastomosis. However, to operative group of 205 patients. The operative group would have survived if all have been removed. 5 years, so it is might have lived

clinical experience of the colon have Its simplicity is occasional surgeon in this procedure. of free peritoneal on 16 dogs have remained viable on at the anasto-

one that should be performed with little manipulation and without exploration. This procedure will relieve the intraluminal pressure from distention, will restore the blood supply of the bowel to normal, will diminish the violence of the intestinal flora, will cause the disappearance of the edema of the bowel wall, and will promote the healing of ulceration and thus prepare the gut to withstand resection (55a).

The incidence of acute colonic obstruction in private patients is approximately 10 per cent, whereas the incidence of this lesion in ward patients is in the vicinity of 30 per cent (246). The mortality from this lesion is approximately 20 per cent.

Rectum. Cancer of the rectum and rectosigmoid is now being attacked more aggressively than ever before. The recent surgical attacks aim primarily at dissection of all possible lymph nodes along the inferior mesenteric vessels. Ault, Castro, and Smith (8) believe that upward lymphatic spread has been neglected. They extend the ligation of the inferior mesenteric vessels in the cephalad direction beyond the limits of present-day practice, thus eliminating abdominal lymph nodes that in the past were unremoved. Their clinical work followed that of Goligher's (138) anatomic studies already discussed. They also developed a three-way method of anatomic measurements which is carried out prior to, during, and after operation to indicate the precise location of the cancer.

Rosi (302) and State (331) treat cancer of the rectum (as well as that of the left colon) by abdominal perineal resection of the rectum and left hemicolectomy. In this operation the inferior mesenteric artery is ligated at the aorta. State removes one-fourth of the transverse, descending, and pelvic colons with their respective mesenteries as well as the lymph nodes along the anterior and lateral aspects of the aorta and inferior vena cava from the level of the third portion of the duodenum caudad. Dissection of the lymph nodes along the common iliac vessels is then performed. A transverse colostomy is constructed on the left side, which functionally is said to differ very little, if any, from a sigmoid colostomy. This

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he more extensive and further study and further study variations force us to lies primarily in radical sur- the patient from all detachable residual cancer in the metastatic lymph nodes. Of 17 patients in whom the re-moved regional lymph glands were the seat of macroscopic or microscopic evidence of malignancy, 11 were free from carcinoma at the time that Wangenstein wrote his second report (375). Since the cure rate of cancer with nodal involvement is notoriously small, this procedure will be worthwhile if a substantial number of patients with residual cancer at the first "second look" will be free from cancer on the second inspection or subsequent re-entries. Wangenstein *et al.* presented an interesting detailed history of a woman aged 60 who had had a carcinoma of the right colon with gross metastases to the regional lymph glands. During a period of a little over 2 years, five re-entries into the abdomen had been made, and, on each occasion save the last, residual cancer was found and extirpated, this patient is now believed to be cured.

Anterior resection. When a cancer of the lower sigmoid or rectosigmoid is removed by so-called anterior resection, inferior mesenteric vessels should be divided as high as local conditions permit. Distal to the neoplasm, as much as possible of the bowel and retroperitoneal tissue should be removed, preferably 5 cm. or more if possible. The safe margin of excision of bowel distal to the tumor has not yet been conclusively determined.

Goligher (138), on the basis of his anatomic studies, has described three methods of ligation of the branches of inferior mesenteric vessels to be utilized in anterior resections that will eliminate most of the bowel and the lymph nodes proximal to the growth and yet will preserve sufficient sigmoid for re-establishing intestinal continuity. Method I. In the average case with a reasonable length of sigmoid colon, the most dependent point on the loop is supplied by the first sigmoid artery, so that by tying the inferior mesenteric vessels just below the origin of this branch and dividing the mesocolon parallel to it, a sigmoid

the more extensive and further study variations force us to lies primarily in radical sur- the patient from all detachable residual cancer in the metastatic lymph nodes. Of 17 patients in whom the re-moved regional lymph glands were the seat of macroscopic or microscopic evidence of malignancy, 11 were free from carcinoma at the time that Wangenstein wrote his second report (375). Since the cure rate of cancer with nodal involvement is notoriously small, this procedure will be worthwhile if a substantial number of patients with residual cancer at the first "second look" will be free from cancer on the second inspection or subsequent re-entries. Wangenstein *et al.* presented an interesting detailed history of a woman aged 60 who had had a carcinoma of the right colon with gross metastases to the regional lymph glands. During a period of a little over 2 years, five re-entries into the abdomen had been made, and, on each occasion save the last, residual cancer was found and extirpated, this patient is now believed to be cured.

endency to effect or perineal wound sten the discharge

obnett (85). (Also following the Miles small bowel (141, may occur through ducted pelvic floor, tomy through the thesions unrelated another important may be confused ry operation is in- tion with suction At operation ad-

nia reduced. without nodal in- surgeons, is about ation for from 5 to te of about 45 per nodal metastases re of reports of 5 ro per cent (46). into these calcula- cess cases as pre- privileged large city results of treat- bowel and rectum disparity. Welch

the peritoneal reflection may rise as much as 2 inches. If a longer sigmoid stump is required, it may be secured by either of the succeeding two methods.

Method II. In this method the inferior mesenteric artery and mesocolon are divided as in method I, but instead of section of the bowel, it and the intersigmoid arcades for some distance below this are preserved intact. The length obtained by this maneuver depends on the width of the gaps between the sigmoid arteries, which is actually very variable, but generally 2 to 3 inches of lengthening can be accomplished in this way.

Method III. Here, after ligation of the inferior mesenteric vessels just below the common origin of the first sigmoid and left colic arteries, the first sigmoid artery itself is divided close to its commencement, or in the cases where it and the left colic arteries arise independently the main inferior mesenteric ligature is applied between these two branches. Thus reliance is placed entirely on the descending branch of the left colic artery and the marginal artery between it and the first sigmoid artery for the supply of the stump. This opening up of the large "window" between the first sigmoid and the left colic arteries usually secures an additional 2 to 3 inches of colon, and further permits of another inch or two being obtained, if necessary, by division of the peritoneum at the outer side of the descending colon and mobilization as far as the splenic flexure. Until the first sigmoid has been divided, freeing of the descending colon in this fashion is futile because the factor determining the extent to which the end of the stump can be brought down is the intact first sigmoid.

Experimentation with the arterial specimens showed that however short the sigmoid loop might be, enough colon could always be provided by one of these maneuvers, most often method III, to permit of end-to-end union with the anorectal remnant after resection 1 inch or so below the anterior peritoneal reflection.

When the entire sigmoid colon has to be sacrificed, as for example in certain cases of double carcinomas, it is possible to resect up to the splenic flexure or middle of the transverse colon and anas-

A technique of the colon with a continuity of the bowel and Fischer (255b) and Fischer (255b) The controversy, efficiencies of open sphincter control, "anterior resection," 231, 235, 286] serve the anal sfluences the advantages. Sentiment (225a) to stay about the sphincter rate, re-establishmied when surgica philosophy. It is c but I have an idea stored continuity, Parent, "Parent's" tomy has been re Wangenstein, anterior resection low-up observation, to this operation, procedure is unusual centimeters or less the high incidence and outside of the absence of recurrence is indicated for the from 14 to 20 cm, between 9 and 13 the controversial local recurrence of group of lesions he proper case selection carried out in patients controversial level. Primarily because, Garlock and riences, Garlock adoned the procedurexplanation of carcinoma of the reemploy it, local cinoma of the reated, according and 20 cm. (6 to

be as high as in the Miles procedure (215). The blood supply, as already discussed, is variable and cannot be determined arbitrarily by division of the bowel at any set point. The first consideration is not the blood supply but adequate eradication of the cancer. Once this has been accomplished, the viability of the remaining colon and rectum is assessed. As already discussed, pulsation of the vessels and color of the bowel are the important guides for proximal vascularity. Distally as well as proximally, the vascularity is demonstrated by adequate bleeding from the cut edge of the rectal stump. This constitutes a valid reason for the employment of an open anastomosis without the use of a crushing clamp.

Garlock and Ginzburg have illustrated well their technique of anterior resection. A simplified method of rectocolic anastomosis with the aid of a specially designed clamp was recommended for cancer of the bowel located above the cul-de-sac level by Sugarbaker and Wiley (336) on the basis of alleged simplicity, technical facility, security, and adequacy of extirpation of the primary growth. This clamp is said to establish and maintain the anastomosis of the cut ends of the bowel following the radical resection of the cancer-bearing colon. On paper this technical maneuver looks appealing, although we are always critical of special appliances.

Richards and Thomas believe that anastomosis of the bowel, particularly in difficult sites such as the pelvis near the peritoneal reflection, can be facilitated by the use of a supporting ring timed to disintegrate within 40 hours. The rings are 25 mm. long, 14 to 31 mm. in outside diameter, and slightly thickened at both ends (*West. J. Surg.*, 1948, 56: 592).

The technique of combined abdominorectal resection for certain types of cancer of the midrectum and the upper part of the rectum was described and well illustrated by Black (48). By April, 1952, Black had performed more than 40 of these operations in properly selected patients and he was satisfied with the results. (Also read *Arch. Surg.*, 1952, 65:406).

The abdominorectal pull-through operations described by Swenson and Hiett for the treatment of

treated by Baker sections of the pelvic advantages of this operative field have been pointed out in the point is certainly *Pull-through* by Jennings procedure by Babcock and impetus by Baker recent articles on proctosigmoidectomy in which the levator muscles were removed with mesenteric vessels. The rectum with adjacent but with a center but with a articles of Bacon. Most surgeons oppositely opposed Ravdin (286) does afford wide dissection normal sphincter. This gives a measure of the sphincter. This is a sufficient

Sphincteric object of the pull-through operation for an operation for

cussed by Nesbit and Bohne (261). (Also see J. Am. M. Ass., 1952, 150:177).

Amus. Epidermoid anal carcinomas arise from the epithelium of the anal canal. They occur either as a basal cell or squamous cell lesion, or a squamobasal cell lesion (177). The former metastasizes slowly and late, while the latter may metastasize very early and rapidly.

The early lesion, if localized to the perianus or anus, may be treated by wide local excision (291) just as similar tumors elsewhere in the skin are treated. If invasion into the anal canal (or rectum) is present, an abdominoperineal resection of the rectum and anus with dissection of the inguinal glands is indicated either at the time of the original operation or at a later date. Mendelsohn and Mansfield (244) have presented a simplified technique of radical groin dissection.

Irradiation is considered inferior to surgical excision either as a method of cure or as a palliative procedure for the relief of local symptoms (337a) although it is practiced by radiotherapists for early superficially invasive papillary lesions. Parenthetically, the anus does not tolerate this form of therapy well (267). Pack (267) employs irradiation in old debilitated persons particularly when they have small, movable lesions usually involving the mucosa. He also employs roentgen ray therapy for fixed inoperable cancers with a view to rendering these resectable by eliminating the associated infection.

Melanomas. The treatment of this anorectal melanoma (see elsewhere in the text for a full discussion) which usually arises at the mucocutaneous junction demands radical surgery consisting of an abdominoperineal resection of the rectum, the removal of the pelvic, retrorectal, and inguinal glands in continuity or at a later date. Irradiation is completely useless.

Therapeutic implications of lymphosarcoma, sarcoma, and hemangiomas are discussed briefly in the chapter on pathology.

Cancer in pregnancy. Jennings (188) described the seventy-eighth case of cancer of the rectum complicating pregnancy. He recommended: (1) resection (abdominoperineal or end-to-end anastomosis) of the rectal neoplasm during the first

so are considered
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any surgeons in
ing is that a pa-
compromised surgi-
stand the ortho-

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cent organs calls
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involved organs,
Sugarbaker and
on, have divided
(1) those that in-
as grossly or are
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stricted movement
ad not freely mov-
the removal of
re advised for the
wider than usual
those which are
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er in text).

either a resectable
ver, lungs, bones)
primary neoplasm.
with Ravdin (286)
al period of life in
than he will if
e the bladder and

the first 100 pro-
pelvic exentera-
(3) state that this
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surgical therapy
at cannot be ex-
operative tech-
advocates of pel-
vic cancer or rec-
volvement, have,
this ultraradical
tational phase.

when these are directly involved by direct extension of the cancer.

Colostomy. McLanahan and Gilmore (239)

evaluated the colostomies in 40 patients on the basis of their opinions and performance. In 27 patients (68 per cent) the colostomy control was satisfactory; in 3 (7.5 per cent) there was no control and to them the colostomy was unacceptable. A return to normal preoperative activities was experienced by 17 patients (42.5 per cent); 21 (52.5 per cent) had curtailed their former activities, while complete invalidism was observed in 2 patients (5 per cent).

Eleven patients had either hernia or definite weakness of the abdominal wall about the colostomy stoma, 3 had prolapse, 2 each had a fistula and stenosis, and 1 experienced bleeding from the stomal mucous membrane.

The use of a bag is discouraged. Most patients require irrigation (every other day) but many re-establish regular habits by means of diet and will-power (221).

The management of the patient with a permanent colostomy by means of diet and irrigation is well discussed and illustrated by Turnbull and Michels (365). It should, however, be recalled that irrigations are not without danger, such as perforation.

The complications of abdominal colostomy are well discussed by Birnbaum and Ferrier (39a). They discussed in some detail the following: (1) stricture, (2) hernia, (3) prolapse, (4) poor function, (5) small bowel obstruction, (6) obstruction of the colostomy stoma, (7) necrosis or re-cession of the colostomy loops, (8) hemorrhage, (9) infection of the urinary tract, (10) perforation, and (11) particularly the psychic reactions. Campbell and Schaeffer (65) developed a new method of surgical reconstruction of the colostomy stoma, amputating it about a fortnight after the original operation and suturing the mucous membrane to the skin, thus eliminating any protrusions. Their technique is well described.

Goodman (142), and Weingarten and Payson (382) have succeeded in eliminating the offensive fecal odor emanating from the colostomy stomas by means of chlorophyll. The former inserts a

cal course, and

Pathogenesis.

described two distinct local vasculitis crypt abscess (39) tion in 50 per cent half of their material as no clue to the Vasculitis resembled thromboangiitis.

believe that contraindicate that ulcer disease. Biopsy showed mucosal material were examined including phase corresponding to this type the base cells is altered; abscesses form.

of the basement membrane, the reticulum is well discussed and illustrated by Turnbull and Michels (365). It should, however, be recalled that irrigations are not without danger, such as perforation.

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cal course, and

grfts by means of tracer techniques with radioactive phosphorus. The presence of P_{32} appears to be a sufficiently reliable index of vascularity and function of such arterial grfts.

Experimental evidence indicates, however, that the more violent the inflammatory reaction (the higher the P_{32} count) is the poorer the functional result of the vascular grft will be. This may be influenced by the following factors: (1) incompatibility of the grft, (2) infection, (3) operative trauma, and (4) change in the grft due to storage.

Radioactive phosphorus within the grft can be accounted for by three procedures: (1) physical adsorption, (2) entrance of the grft by means of a new circulation, and (3) diffusion from tissue fluids. The authors found that the radioactivity counts for the satisfactory-functioning grfts averaged lower than the mean of all grfts, while those for grfts showing thrombosis, necrosis, hemorrhage, and inflammatory reaction were much higher. The present study also confirms by a functional method the fact that the adventitia is the main source of blood supply for grfts when the isotope detection is correlated with the microscopic picture.

Within the limits of the experiments described the detection of the radioisotope P_{32} increases with the age of the grft.

EDWARD F. LEWISON, M.D.

An Experimental Study of the Effects of Preservation on the Fate of Aortic and Vena Caval Homografts in the Growing Pig. LESTER R. SAVAGE and HENRY N. HARKINS. *Ann. Surg.*, 1952, 136: 439.

Since there are definite instances in which grfts for the replacement of blood vessels are necessary, such as in certain cases of coarctation of the aorta, and since aortic grfts would probably have to be stored, it is important to study the effect of such storage. The results in 50 delayed aortic and inferior vena caval homografts of short length (preserved in Ringer's or Tyrode's solutions containing 10 per cent homologous serum at 4° C.) implanted in the abdominal aortas of young pigs are reported. The conclusions which the authors reached were as follows:

1. The duration of the period of preservation of the homografts described prior to implantation in defects in the abdominal aorta of the growing pig does not significantly influence either the incidence of thrombosis or the pattern of the dimensional changes in these grfts with the growth of the pig.
2. The incidence of degenerative changes in the homografts is not significantly influenced by the duration of preservation.

sion by describing tion of radiopaque circulation. Under ce is injected into aneus or the distal aphs are made and culation about the leg is thus possible.

MANFREDI, M.D.

r Repair. JAMES E. M. *Arch. Surg.*, 1952,

ment that if a de- vessel, it is best re- from the same in- individual of the oblems of procure- and preservation ut its hazards. In dicate the possible ascular tissue could hey indicate that a rectus sheath with excellent possibilities. undertaken with 30 vestigation are re- repaired with auto- the posterior rectus oneal surface sub- grfts were placed s and as tubes. A nd a lower percent- fully. Examination up to 1 year follow- s and microscopic sue for the intended

F. LEWISON, M.D.

Blood Vessel Grafts Phosphorus. CLIFFORD M. DONALD M. GLOVER, DONALD M. GLOVER, 1952, 65: 477.

experience to show as grfts of arteries considerable success ver, the mechanism

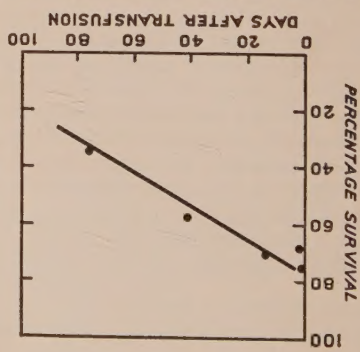


Fig. 1 (Mollison *et al.*) Survival after transfusion of red cells stored at -79°C . for 6 months and at $+4^{\circ}\text{C}$. for 11 days (case 4).

5. Both Ringer's solution plus 10 per cent homologous serum and Tyrode's solution plus 10 per cent homologous serum are satisfactory fluid media for preservation at temperatures slightly above 0° C. of vascular segments to be used in the abdominal aorta of the growing pig. LeRoy J. Kleinsasser, M.D.

BLOOD; TRANSFUSION

Survival of Transfused Red Cells Previously Stored
for Long Periods in the Frozen State. P. L. MOL-
LISON, H. A. SLOVITER, and H. CHAPLIN. *Lancet*,
London, 1952, 263: 501.

Concentrated suspensions of Group A type N blood were mixed with 15 per cent glycerol and frozen and stored at $-79^{\circ}\text{C}.$ and at $-15^{\circ}\text{C}.$ for periods up to 8 months. After thawing for a period of 7 to 8 days, the glycerol was removed by dialysis and the red cells were transfused into 10 patients. Each patient was infused intravenously both with the frozen cells and fresh red cells which served as controls. All but 1 of the recipients were female. They belonged to group A, Rh and M positive.

as the control fresh stored at -15° are similar to that obtained at -79° . Lysis of cells due to believed to be caused by biochemical reactions than -79° was demonstrated by reactions did not occur in mental transitions.

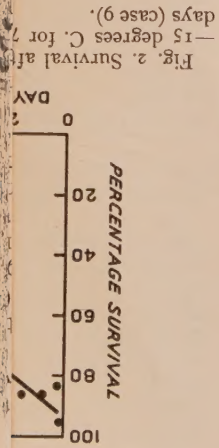


Fig. 2. Surv—15 degrees (case 9), days (case 9).